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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,837	10/17/2003	Hiroaki Segawa	U 014860-4	9440
140	7590	03/29/2006	EXAMINER	
LADAS & PARRY 26 WEST 61ST STREET NEW YORK, NY 10023			SHOSHO, CALLIE E	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/688,837

Applicant(s)

SEGAWA ET AL.

Examiner

Callie E. Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. All outstanding rejections except for those described below are overcome by applicants' amendment filed 1/3/06.

Priority

2. In response to examiner's statement in paragraph 1 of the office mailed 10/6/05 that applicants had not filed a certified copy of either of the Japanese priority documents, applicants state that the certified copies were filed in May 2004 as evidenced by postcard receipt stamped as received by USPTO 19 May 2005.

However, while the examiner appreciates applicants' response, it is noted that the certified priority documents have not been found in the present application.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-6 and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1203797.

The rejection is adequately set forth in paragraph 15 of the office action mailed 10/6/05 and is incorporated here by reference.

5. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1203797 as applied to claims 1-6 and 12-18 above, and further in view of Han-Adebukun et al. (U.S. 6,666,553).

The rejection is adequately set forth in paragraph 16 of the office action mailed 10/6/05 and is incorporated here by reference.

6. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1203797 as applied to claims 1-6 and 12-18 above, and further in view of either Pearlstine et al. (U.S. 6,087,416) or Nichols et al. (U.S. 6,124,376).

The rejection is adequately set forth in paragraph 17 of the office action mailed 10/6/05 and is incorporated here by reference.

Response to Arguments

7. Applicants' arguments regarding Suzuki et al. (U.S. 6,245,832), Hirasa et al. (U.S. 5,919,294), Tsuru et al. (U.S. 2004/0030052), and Segawa et al. (U.S. 2004/0024086) have been fully considered but they are moot in view of the discontinuation of the use of these references against the present claims.

8. Applicants' arguments filed 1/3/06 have been fully considered but with the exception of arguments relating to Suzuki et al., Hirasa et al., Tsuru et al., and Segawa et al., they are not persuasive.

Previously, the examiner noted that paragraphs 95 and 104 of EP 1203797 disclose ink comprising pigment, styrene-acrylic acid, Surfynol, triethyleneglycol monobutyl ether, and sulfonated polymer obtained from 40% styrene and butadiene. While there was no disclosure in the example that diene is C₅ or higher diene, the examiner argued that given that EP 1203797 discloses the equivalence and interchangeability of using C₄ diene with using C₅-C₁₀ diene in paragraph 59, it therefore would have been obvious to one of ordinary skill in the art, absent evidence to the contrary, to use any diene including C₅-C₁₀ diene in the copolymer with 40% styrene and thereby arrive at the claimed invention.

In response, applicants point to comparative data set forth in the present specification. It is noted that the data compares ink within the scope of the present claims, i.e. comprising isoprene/styrene/isoprene copolymer with sulfonic acid group wherein styrene is present in amount of 40%, with ink outside the scope of the present claims, i.e. comprising butadiene/styrene/butadiene with sulfonic acid group wherein styrene is present in amount of 40%. Applicants argue that the data shows that the ink of the present invention is superior in terms of gas resistance, abrasion resistance, and scratch resistance.

However, it is the examiner's position that the data is not persuasive given that there appears to be no significant differences between the ink within the scope of the present claims and the ink outside the scope of the present claims.

Specifically, the ink within the scope of the present claims, i.e. comprising isoprene/styrene/isoprene, rates "A" in each of gas resistance, abrasion resistance, and scratch resistance, while ink outside the scope of the present claims, i.e. comprising

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butadiene/styrene/butadiene, rates "B" in each of gas resistance, abrasion resistance, and scratch resistance.

However, with respect to gas resistance, it is noted that ink with "A" rating is described as having good gas resistance with color change $\Delta E^* < 10$ while ink with "B" rating is described as having no practical problems and color change $10 \leq \Delta E^* < 20$. Given that "A" rating encompasses inks with $\Delta E^* < 10$ which includes values such as 9, 9.5, 9.9, etc. and given that ink with "B" rating encompasses inks with $\Delta E^* = 10, 10.05, 10.1$, etc., there appears to be no significant difference between ink with "A" rating and ink with "B" rating in terms of gas resistance.

With respect to abrasion resistance, it is noted that ink with "A" rating exhibits no color separation while ink with "B" rating exhibits very little color separation (less than 20%). Given that ink with "B" rating exhibits "very little" color separation and given that the values encompassed by ink with "B" include all values below 20%, i.e. 0.001%, 0.1%, etc. which is very close to the color separation for ink with "A" rating, there appears to be no significant difference between ink with "A" rating and ink with "B" rating in terms of abrasion resistance.

With respect to scratch resistance, it is noted that ink with "A" rating exhibits no scratching of recorded matter surface while ink with "B" rating exhibits scratching of recorded matter surface but no color separation. While ink with "B" rating discloses that the surface is scratched as compared to ink with "A" rating, this ink also exhibits no color separation and thus, it would necessarily follow that the scratching is slight. Thus, there appears to be no significant difference between ink with "A" rating and ink with "B" rating in terms of scratch resistance. it is noted that there is no explicit disclosure in the present specification regarding what the

difference is between a surface that is not scratched and a scratched surface with little color separation.

Thus, given that given that it is the examiner's position that there is no significant differences between ink within the scope of the present claims, i.e. comprising isoprene/styrene/isoprene, and ink outside the scope of the present claims but within the scope of EP 1203797, i.e. comprising butadiene/styrene/butadiene, it is the examiner's position that the data is not persuasive in establishing unexpected or surprising results over EP 1203797.

Thus, given that EP 1203797 discloses ink comprising butadiene/styrene/butadiene copolymer wherein styrene is present in amount of 40% and given that EP 1203797 discloses the equivalence and interchangeability of using butadiene with using C₅-C₁₀ diene, it is the examiner's position that it would have been obvious to one of ordinary skill in the art to utilize C₅-C₁₀ diene in the copolymer of EP 1203797, and thereby arrive at the claimed invention.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

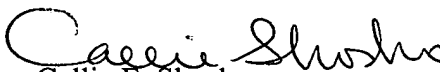
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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
3/17/06